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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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Before the
Federal Communications Commission
Washington, DC 20544

In the Matter of

Replacement of Part 90
by Part 88 to Revise
the Private Land Mobile
Radio Services and Modify
the Policies Governing them.

PR Docket 92-235

To: The Commission

COMMENTS

Hammond Furnace + Supply

submits its comments
in response to the Commission's notice of Proposed Rule Making in this
proceeding, concerning:

1. Power Restrictions on Fixed Stations at Higher Elevations.
2. Channel Splitting.
3. Frequency Stability.
4. Consolidation of Private Land Mobile Radio Services.

Complete comments are provided on the following page.

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1. Power Restrictions: This proposal, which would require licensees to reduce power depending on height above average terrain, is a two dimensional solution to a three dimensional problem that will not work and that we strongly oppose.

In most cases, high elevation transmitter sites are surrounded by natural obstacles such as other mountains. Environmental, economic and zoning concerns often prohibit use of the best transmitter site. Consequently, many transmitters are located miles away from the desired coverage area. To compensate for these factors, a licensee must use sufficient power to cope with geographic realities.

Air pollution and other exogenous factors can cause a dramatic loss of signal strength at the mobile receiver. Losses of 20 to 30 DB are frequently noted in the Los Angeles area during periods of high air pollution. Snow and ice on the antenna in winter can decrease the performance of the system as can foliage and trees during the growth season. Conditions around the receiver -- which, in a mobile unit, change continually -- often restrict reception. Clearly, radio systems must be designed to include sufficient reserve gain to have the dynamic range to reach its mobile receivers undiminished by variable environmental factors.

Under the Commission's proposal, specifying licensed output in terms of effective radiated power (ERP) would impose a subjective theoretical standard on the real world where it well may not be applicable. Line loss, antenna gain and directional distortions caused by the tower on which the antenna is mounted often will severely distort the realities of the equation.

At the present time, the mobile area of operation for many licensees is 75 miles around a base station or repeater. As this fact is recognized in existing licenses, the FCC should permit licensees to use adequate power to cover the area of operation specified in the license unaffected by to the unreasonably low power limits described in the notice of proposed rulemaking.

2. Channel Splitting: The Commission's proposal, to reduce spacing to 5 kilohertz (khz) in VHF and 6.25 khz in UHF, is incompatible with mobile two-way radio systems. We strongly oppose this proposal unless and until new technology is tested, proven and readily available. These band widths are inappropriate because:

First, mobile communications begin and end with human speech. An extremely narrow bandwidth does not convey the audio quality and intelligibility needed to communicate speech effectively. Unless users are willing to utilize only non-voice data transmissions, channel spacings of 5 or 6.25 khz are unrealistic.

Second, channel spacings of 5 or 6.25 khz will result in interference to and from adjacent channels. Such channel spacings now work with microwave multiplex equipment only because those systems operate with carefully controlled, identical power levels. With continuously changing power levels encountered in mobile systems, interference will reach unacceptable levels.

Third, existing FM specifications provide proven, reliable and accepted standards for the industry. However, there is no standard for the type of equipment required by this proposal. Only one manufacturer has type-accepted equipment for the 220 band on which these technical standards apply. That

equipment, which is single side band (SSB), is unacceptable to most users because of its poor audio quality. Moreover, this equipment has not been proven on a large scale as no licenses have been issued on the 220 band. Although long available for the 150 band, it has not gained wide-spread acceptance due to poor voice quality. The cellular telephone industry is now testing both digital and analog time-division equipment in an effort to develop standards for narrow band transmission. Reports indicate that these systems